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Indiana Timber Industry—An Assessment of Timber Product Output and Use

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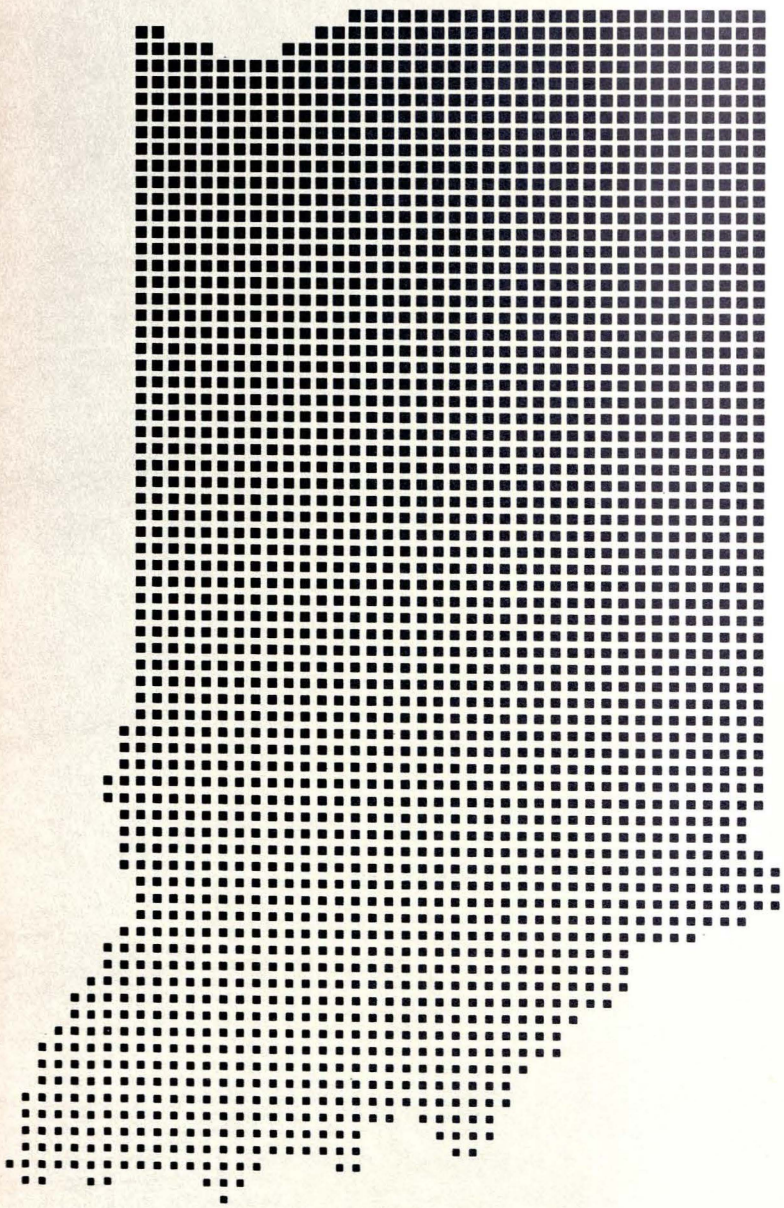

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FOREWORD

In this bulletin we discuss recent Indiana forest industry trends and report the results of a detailed study of forest industry, industrial roundwood production, and associated primary mill wood and bark residue in Indiana in 1984. Such detailed information is necessary for intelligent planning and decisionmaking in wood procurement, forest resource management, and forest industry development. Likewise, researchers need current forest industry and industrial roundwood information for planning projects.

Special thanks are given to the primary wood-using firms that supplied information for this study and to the Indiana Department of Natural Resources foresters who canvassed these respondents. Their cooperation is greatly appreciated.

All references to red oak in this paper are for the red oak group that includes black oak as well as northern red oak, cherrybark oak, shumard oak, scarlet oak, southern red oak, shingle oak, and pin oak. Similarly, all references to white oak are for the white oak group that includes white oak, swamp white oak, bur oak, swamp chestnut oak, chinkapin oak, chestnut oak, and post oak.

All board feet data in this report have been converted to International 1/4-inch scale by applying a multiplier of 1.38 to all saw log and handle bolt volumes reported by sawmills and handle mills in Doyle scale and a multiplier of 1.14 to all veneer log and cooperage log volumes reported in Doyle scale by veneer and cooperage mills. To convert to Doyle log scale, multiply the International scale volume for saw logs and handle bolts by 0.7246 and multiply the International scale volume for veneer logs and cooperage logs by 0.8772.

The last detailed study of all industrial roundwood output in Indiana was in 1966. Most comparisons in this report are with the 1966 study results. Quantities shown may vary slightly from one table to another because of rounding differences, but these differences are insignificant.

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INDIANA TIMBER INDUSTRY—AN ASSESSMENT OF TIMBER PRODUCT OUTPUT AND USE

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HIGHLIGHTS

- Indiana industrial roundwood production climbed to 65.6 million cubic feet in 1984 from 45.4 million cubic feet in 1966.
- Saw logs accounted for 90 percent of the industrial roundwood harvest compared to 72 percent of the harvest in 1966.
- Red oak, white oak, yellow-poplar, and ash—the leading species cut—supplied 65 percent of the total harvest.
- Most (94 percent) of the industrial roundwood cut came from private land.
- Saw log production rose from 223 million board feet in 1966 to 354 million board feet in 1984.
- Principal saw log species were red oak, white oak, yellow-poplar, hickory, ash, and hard maple.
- Average lumber output per sawmill rose 55 percent between 1971 and 1984.
- During 1984 Indiana produced 206 thousand cords of pulpwood, 109 thousand cords more than in 1966.
- Indiana loggers cut 14.2 million board feet of veneer logs, 10 percent less than in 1966.
- Indiana veneer mills imported 65 percent of the logs they needed from 19 States.
- Logging residue generated in 1984 was estimated to be the equivalent of 648 thousand cords of pulpwood, enough to supply two 600-ton/day pulpmills for 1 year.
- Eighty-six percent or more of each residue class (coarse, fine, bark) generated at Indiana primary mills was used.

PRIMARY FOREST INDUSTRY—INDUSTRIAL ROUNDWOOD

Sawmills dominate the Indiana primary timber industry in terms of number of mills and volume of wood used. Of 306 primary mills operating in 1984, 276 were sawmills. Active (operating) mills declined from 518 in 1966. Small sawmills (each cutting less than one-half million board feet of lumber annually) constituted most of the mill losses. Since 1966 the number of large sawmills has increased by 26, while the number of medium sawmills has fallen by 8. Large and medium sawmills are scattered throughout Indiana, with the heaviest concentration in the Knobs Survey Unit (fig. 1). Active Indiana sawmills received 74.1 million cubic feet of logs and bolts in 1984, up 37 percent from 1966.

Indiana's timber industry participated in the national recovery from recession. National markets for wood products in 1984 were good because the U.S. was recovering from a recession. Housing starts were 1.745 million units, an increase of 2.4 percent from 1983 and the highest total since 1979. Wood and upholstered furniture manufacturers had a good year, with new orders and shipments each totaling nearly $12 billion. U.S. lumber production in 1984 was 36.8 million board feet, 5.5 percent above the average for 1975-1984. Domestic paper and paperboard production reached a new high in the U.S. of 69 million tons, up 5.6 percent from the previous peak in 1983.

Industrial roundwood production in 1984 was more than double that in 1966 in the Knobs Unit, and the Knobs Unit displaced the Northern Unit as the leading producing area:

Survey Unit	Roundwood production 1966	1984	Change
	(Thousand cubic feet)		(Percent)
Lower Wabash	11,153	15,862	+ 42
Knobs	14,099	28,740	+104
Upland Flats	4,866	4,249	− 13
Northern	15,096	16,770	+ 11
Total	45,214	65,621	+ 45

Log production for industry rose at an average annual rate of 4.0 percent in the Knobs Unit since 1966 because several new high-production sawmills began

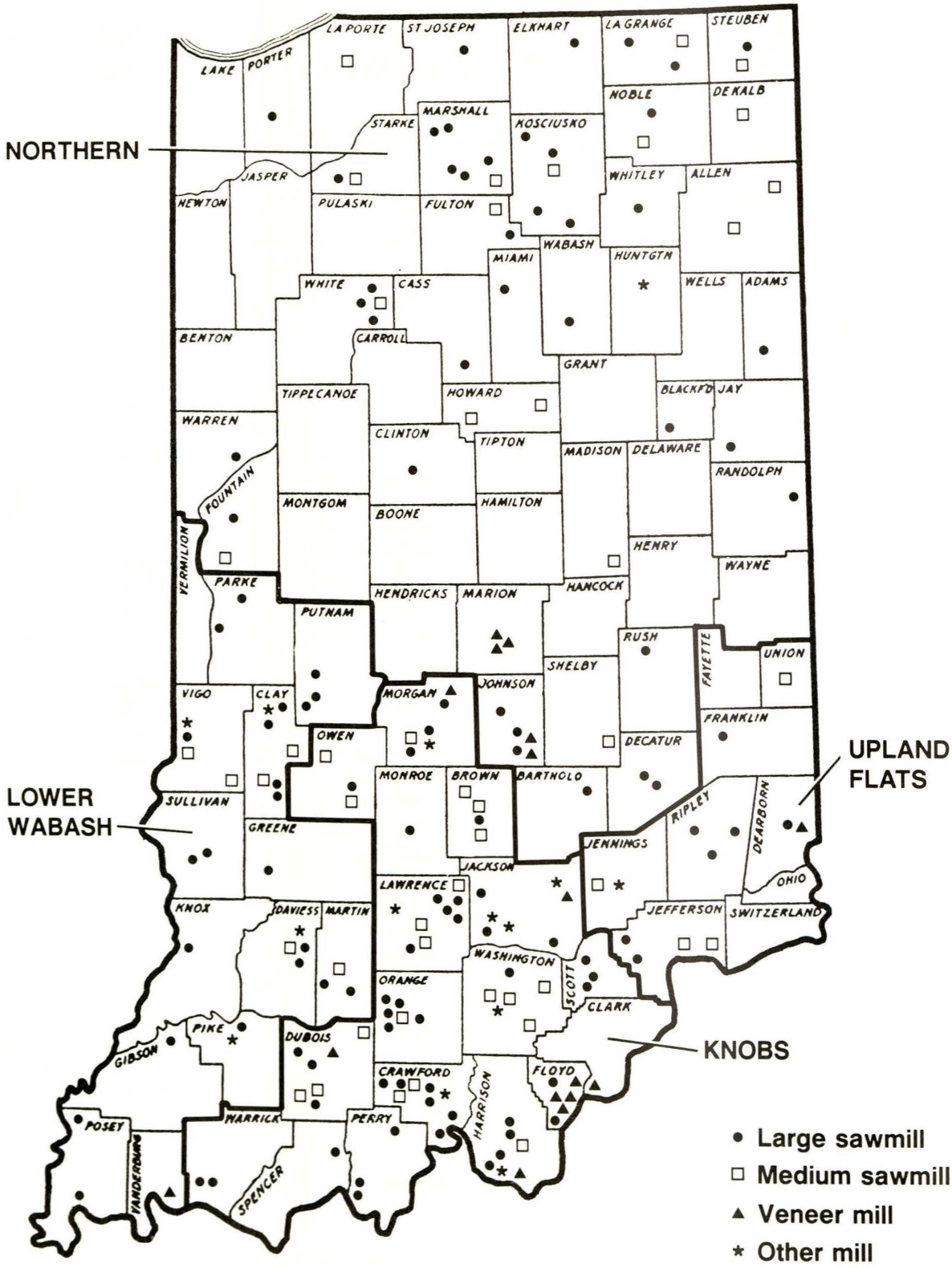

Figure 1.—*Active primary wood-using mills and Forest Survey Units in Indiana, 1984. Sawmills are classed by volume of lumber produced in 1984: large = more than 1 million board feet; medium = ½ to 1 million board feet (smaller sawmills not shown). Forest Survey Units are the geographic areas used by the Forest Inventory and Analysis Project to report periodic inventories and use of the Nation's forest resources.*

operating in the Unit and several sawmills in that area expanded and modernized their operations.

Saw logs increased their dominance in industrial roundwood production from 72 percent of the total in 1966 to 90 percent in 1984. Pulpwood was second in volume, followed by veneer logs.

Red oak led all other species in output (production), followed by white oak, yellow-poplar, and ash. Together, these four species provided nearly two-thirds of the roundwood harvest, and the oaks alone provided 46 percent. Other important species were hickory and hard maple.

Privately owned land supplied 94 percent of the industrial roundwood. National forest land furnished another 4 percent, and State-owned land furnished 2 percent. Most (85 percent) of the harvest on public land was in the Knobs Unit.

SAW LOGS

Indiana loggers cut 354 million board feet of saw logs in 1984—58 percent more than in 1966. More than 99 percent was hardwood. Principal species harvested were red oak, white oak, yellow-poplar, hickory, ash, and hard maple.

Only 3 million board feet total were shipped out-of-State to Illinois, Ohio, Michigan, Kentucky, and Missouri. Red oak was the major species exported.

Major production gains since 1966 were in red oak (49 million board feet), yellow-poplar (26 million board feet), and white oak (22 million board feet). Demand for red oak for furniture was high. More than one-half of the production gain in each of these three species groups came from the Knobs Unit. Production dropped more than a million board feet from 1966 for each of four species groups—cottonwood, soft maple, black walnut, and hard maple.

More than half the yellow-poplar and nearly half the red oak was harvested in the Knobs Unit, the leading saw-log producing region. The Northern Unit was the largest supplier (35 percent) of ash saw logs.

Indiana sawmills imported 40 million board feet of saw logs from nine States, but primarily from Illinois, Michigan, Kentucky, and Ohio. These four States (Illinois, Michigan, Kentucky, and Ohio) furnished one-fourth of the walnut log volume processed at Indiana sawmills. Saw log imports were widespread in Indiana, ranging from 8 percent of total saw log volume received in the Knobs Unit to 13 percent of total saw log receipts in the Northern Unit.

Average annual lumber output per sawmill rose 3.4 percent from 1971 to 1984. Output continues to rise because most mills that close are small, most new mills are larger than average, and other mills have improved their productivity.

PULPWOOD

During 1984 Indiana produced 206 thousand cords of pulpwood, exceeded only by the 226 thousand cords produced in 1983. Eighty-three out of every 100 cords was residue from sawmills, veneer mills, and other mills; the rest was roundwood. During the 1960's, Indiana roundwood was cut for pulpwood at twice the rate of the 1980's.

Since 1955 (when Indiana pulpwood data were first obtained), pulpwood has been increasing, although the number of active Indiana pulpmills has declined from three in 1961 to one currently. In 1955, only 19 thousand cords were produced. Production rose above 100 thousand cords in 1968 and above 200 thousand cords in 1979 for the first time. From 1955 through 1964, Indiana residue was not used to manufacture pulp. Since 1968, Indiana residue use has grown rapidly, and it has been the dominant source of Indiana pulpwood since 1973. Indiana softwoods have never been an important source of pulpwood and have not been used since 1981.

Most (98 percent) of the roundwood pulpwood was harvested in the Knobs and Lower Wabash Units during 1984. Principal species cut that year were white oak, red oak, yellow-poplar, hickory, and sycamore. Indiana supplies pulpwood to several mills in several States.

VENEER LOGS

Of the 14.2 million board feet of veneer logs cut in 1984 in Indiana, 69 percent remained in the State, 18 percent was shipped to Ohio, and the rest was sent to Kentucky, Iowa, Missouri, West Virginia, and to other countries. White oak constituted 35 percent of the harvest, red oak 22 percent, and walnut 20 percent. White oak and walnut were the chief exports from Indiana. The long-term trend in veneer log production appears to be slightly downward, with the 1984 harvest 10 percent below 1966 and 5 percent below 1976. In comparing 1966 and 1984 outputs, declines were concentrated in walnut, yellow-poplar, hard maple, and cottonwood, and gains were primarily in white and red oak.

Sixteen Indiana veneer mills received 28.0 million board feet of logs and bolts. Imports totaled 18.3 million board feet from 19 States. Of these 19 States, seven each contributed more than 1.5 million board feet: Kentucky, Pennsylvania, Ohio, Illinois, Louisiana, Tennessee, and Michigan.

White oak was the major species processed in Indiana, followed by red oak, black walnut, and pecan (hickory). About two-thirds of the white oak was imported, mainly from Illinois, Tennessee, Kentucky, and Ohio. Ohio and Illinois were the primary sources of walnut. Pennsylvania, Michigan, and Kentucky were large suppliers of red oak. Louisiana was the primary source of pecan. Pennsylvania furnished 85 percent of the black cherry.

OTHER PRODUCTS

Other industrial roundwood products (3 percent of all industrial roundwood) cut in Indiana in 1984 were handle bolts, cooperage logs, poles, piling, and shavings bolts (used principally for poultry litter). Handle bolt output was 7.4 million board feet from ash, hard maple, and hickory. The Knobs and Northern Units were the primary logging areas for handle bolts. Cooperage log production (3.9 million board feet) was all white oak, and three-fourths (74 percent) was cut in the Knobs Unit.

LOGGING RESIDUE

During 1984 loggers in Indiana generated an estimated 51.2 million cubic feet of logging residue. Logging residue includes all wood fiber left behind from trees cut during logging operations and not subsequently used. Total residue generated was equivalent to 648 thousand cords of pulpwood, enough wood to supply two 600-ton/day pulpmills for 1 year.

Four species accounted for two-thirds of the residue:

Species	Residue volume	
	(Million cubic feet)	(Percent of total)
Red oak	16.0	31
White oak	7.0	14
Yellow-poplar	6.5	13
Ash	4.4	9

Production of logging residue by Survey Unit was:

Survey Unit	Residue volume	
	(Million cubic feet)	(Percent of total)
Lower Wabash	12.3	24
Knobs	22.0	43
Upland Flats	3.4	7
Northern	13.5	26
Total	51.2	100

PRIMARY MILL RESIDUE

In Indiana during 1984, primary wood-using mills (except the pulpmill) generated 563 thousand green tons of coarse residue, 362 thousand green tons of fine residue, and 241 thousand tons of bark. Much of this residue was used: 94 percent of the coarse, 86 percent of the fine, and 91 percent of the bark. Pulpmills consumed 57 percent of the coarse residue for fiber products, and households consumed 29 percent for fuel. Fine residue was used primarily for industrial fuel, mulch, soil conditioners, livestock bedding, and poultry litter.

Mills have found additional markets for wood residue since 1966, and market demand has changed. In 1966 only 41 percent of the coarse residue and 67 percent of the fine residue were used. Since 1966 major markets have been developed for unused coarse residue in pulp manufacturing:

Type of use	Percent of coarse residue	
	1966	1984
Fiber (pulp)	2	57
Not used	59	6

In 1966 the major use for fine residue was in mulch, soil conditioners, livestock bedding, and poultry litter. By 1984 industrial fuel was a more important use for fine residue, rising from 24 percent of the total residue in 1966 to 44 percent.

Counties each producing more than 25 thousand green tons of coarse and fine residue in 1984 were Clay, Crawford, Harrison, Jackson, Johnson, La Grange, Lawrence, Morgan, Orange, Perry, and Putnam. Estimates of residue in 1984 by type of use for each county are found in the Appendix. Individuals or firms desiring residue can use the county data to pinpoint areas with the highest residue concentrations.

OUTLOOK

Growth of the U.S. economy, and particularly the midwestern economy, will be a major factor in determining the rate of growth in demand for Indiana industrial roundwood products. Changes in demand for housing, furniture, pallets, railroad ties, blocking, paper, and paperboard are all vitally important to Indiana's primary wood-using industry.

Between 1966 and 1984 the average annual changes in roundwood production for saw logs, pulpwood, veneer logs, and all industrial roundwood were:

Industrial roundwood product	Average annual change (Percent)
Saw logs	+ 2.6
Pulpwood	- 5.3
Veneer logs	- 0.6
All	+ 2.1

The 2.1 percent average annual increase for all industrial roundwood products between 1966 and 1984 will probably be maintained during the next decade unless the U.S. has a severe recession.

APPENDIX

STUDY METHODS

Data for this publication came from canvassing (with a formal questionnaire) all the known primary wood-using mills that use Indiana logs and bolts. The study was a cooperative effort of the Indiana Department of Natural Resources (IDNR) and the North Central Forest Experiment Station (NCFES). IDNR foresters personally canvassed all the known Indiana primary mills (except one pulpmill). IDNR utilization and marketing specialists provided estimates based on prior knowledge and contacts for a few Indiana mills that did not furnish complete data.

The NCFES mailed a formal questionnaire to the Indiana pulpmill and all out-of-State mills using Indiana roundwood. Follow-up on nonrespondents was by mail and telephone.

Logging utilization factors were used to estimate the logging residue. These factors were determined from an Illinois logging utilization study by the NCFES during 1984 and 1985.

The NCFES edited and compiled the data.

SAMPLING ERROR

Because all primary wood-using mills were canvassed, there is no sampling error for the roundwood products they used or the wood and bark residue they generated.

DEFINITION OF TERMS

Coarse mill residue.—Wood residue suitable for chipping such as slabs, edgings, and veneer cores.

Commercial forest land.—Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation. Generally, this includes areas suitable for growing crops of industrial wood in excess of 20 cubic feet per acre annually.

Consumption.—The quantity of a commodity, such as saw logs, utilized.

Fine mill residue.—Wood residue not suitable for chipping such as sawdust and veneer clippings.

Forest industry land.—Land owned by companies or individuals operating primary wood-using mills.

Forest Survey Unit.—A geographic area (group of counties) used by the Forest Inventory and Analysis Project to report periodic inventories and use of the Nation's forest resources.

Industrial roundwood products.—Saw logs, pulpwood, veneer logs, poles, commercial posts, piling, cooperage logs, particleboard bolts, shaving bolts, lath bolts, charcoal bolts, and chips from roundwood used for pulp or board products.

Industrial roundwood production.—The quantity of industrial roundwood harvested in a geographic area.

Industrial roundwood receipts.—The quantity of industrial roundwood received in a geographic area regardless of the geographic source.

Logging residue.—The unused portions of trees cut or killed by logging.

National forest land.—Federal land that has been legally designated as National Forest or purchase units, and other land under the administration of the USDA Forest Service.

Primary wood-using mills.—Mills receiving roundwood or chips from roundwood for processing into products.

Primary wood-using mill residue.—Wood materials (coarse and fine) and bark generated at manufacturing plants from roundwood processed into principal products. These residues include wood products (by-products) obtained incidental to production of principal products and wood materials not utilized for some product.

Roundwood.—Logs, bolts, or other round sections cut from trees (including chips from roundwood).

Standard cord.—A stack of wood bolts (or the equivalent) encompassing 128 cubic feet of wood, bark, and air space. A cord of pulpwood contains 79 cubic feet of wood and 49 cubic feet of bark and air space.

State land.—Land owned by States or land leased to these governmental units for 50 years or more.

COMMON AND SCIENTIFIC NAMES OF TREE SPECIES MENTIONED

SOFTWOODS
Pine
- Shortleaf pine ..... *Pinus echinata*
- Virginia pine ..... *Pinus virginiana*
- Eastern white pine ..... *Pinus strobus*
- Red pine ..... *Pinus resinosa*
- Scotch pine ..... *Pinus sylvestris*

Cypress ..... *Taxodium distichum*
Eastern redcedar ..... *Juniperus virginiana*

HARDWOODS
White oak
- White oak ..... *Quercus alba*
- Swamp white oak ..... *Quercus bicolor*
- Bur oak ..... *Quercus macrocarpa*
- Swamp chestnut oak ..... *Quercus michauxii*
- Chinkapin oak ..... *Quercus muehlenbergii*
- Chestnut oak ..... *Quercus prinus*
- Post oak ..... *Quercus stellata*

Red oak
- Northern red oak ..... *Quercus rubra*
- Cherrybark oak . *Quercus falcata* var. *pagodaefolia*
- Shumard oak ..... *Quercus shumardi*
- Black oak ..... *Quercus velutina*
- Scarlet oak ..... *Quercus coccinea*
- Southern red oak ..... *Quercus falcata*
- Shingle oak ..... *Quercus imbricaria*
- Pin oak ..... *Quercus palustris*

Hickory
- Mockernut hickory ..... *Carya tomentosa*
- Shagbark hickory ..... *Carya ovata*
- Shellbark hickory ..... *Carya laciniosa*
- Pecan ..... *Carya illinoensis*
- Pignut hickory ..... *Carya glabra*
- Bitternut hickory ..... *Carya cordiformis*

Hard maple ..... *Acer saccharum*
Soft maple
- Red maple ..... *Acer rubrum*
- Silver maple ..... *Acer saccharinum*

Beech ..... *Fagus grandifolia*
Sweetgum ..... *Liquidambar styraciflua*
Blackgum ..... *Nyssa sylvatica*
Ash
- White ash ..... *Fraxinus americana*
- Black ash ..... *Fraxinus nigra*
- Green ash ..... *Fraxinus pennsylvanica*
- Blue ash ..... *Fraxinus quadrangulata*

Cottonwood ..... *Populus deltoides*
Aspen
- Bigtooth aspen ..... *Populus grandidentata*
- Quaking aspen ..... *Populus tremuloides*

American basswood ..... *Tilia americana*
Yellow-poplar ..... *Liriodendron tulipfera*
Black cherry ..... *Prunus serotina*
Black walnut ..... *Juglans nigra*
Elm
- Winged elm ..... *Ulmus alata*
- American elm ..... *Ulmus americana*
- Siberian elm ..... *Ulmus pumila*
- Slippery elm ..... *Ulmus rubra*
- Rock elm ..... *Ulmus thomasii*

American sycamore ..... *Platanus occidentalis*
Birch
- Yellow birch ..... *Betula alleghaniensis*
- River birch ..... *Betula nigra*
- Paper birch ..... *Betula papyrifera*

Other hardwoods
- Ohio buckeye ..... *Aesculus glabra*
- Hackberry ..... *Celtis occidentalis*
- Northern catalpa ..... *Catalpa speciosa*
- Flowering dogwood ..... *Cornus florida*
- Common persimmon ..... *Diospyros virginiana*
- Honeylocust ..... *Gleditsia triacanthos*
- Kentucky coffeetree ..... *Gymnocladus dioicus*
- Butternut ..... *Juglans cinerea*
- Osage-orange ..... *Maclura pomifera*
- Cucumbertree ..... *Magnolia acuminata*
- Black locust ..... *Robinia pseudoacacia*
- Black willow ..... *Salix nigra*
- Sassafras ..... *Sassafras albidum*
- Boxelder ..... *Acer negundo*
- Balsam poplar ..... *Populus balsamifera*

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Table 1.--Number of active primary wood-using mills in Indiana, 1961, 1966, 1971, 1980, and 1984

Kind of mill[1]	1961	1966	1971	1980	1984
Sawmills					
Large[2]	[3]	86	77	99	112
Medium[4]	[3]	55	52	59	47
Small	[3]	339	256	176	117
Subtotal[5]	400	480	385	334	276
Veneer mills	19	21	18	16	16
Handle plants	7	4	[6]	7	6
Cooperage mills	10	7	[6]	6	4
Pulp mills	3	2	1	1	1
Other mills[7]	5	4	[6]	3	3
Total	444	518	[6]	367	306

[1] Number of active sawmills estimated in 1980.
[2] Annual lumber production in excess of 1 million board feet.
[3] Data not available by mill size.
[4] Annual lumber production from 1/2 to 1 million board feet.
[5] Sawmill totals for 1961 do not include a number of small sawmills.
[6] Not available.
[7] Includes shavings, cabin log, and excelsior plants.

Table 2.--Industrial roundwood production by species group and product, Indiana, 1966 and 1984

(In million cubic feet)

Product	All species		Hardwoods		Softwoods	
	1966	1984	1966	1984	1966	1984
Saw logs	32.8	58.9	32.6	58.7	0.2	0.2
Pulpwood	6.8	2.8	6.7	2.8	0.1	--
Veneer logs	2.2	1.9	2.2	1.9	--	1/
Other products 2/	3.6	2.0	3.6	2.0	--	--
All products	45.4	65.6	45.1	65.4	0.3	0.2

1/ Less than 50 thousand cubic feet.

2/ Includes logs and bolts used for handles, mine timbers, cooperage, poles, piling and other specialty products.

Table 3.--Industrial roundwood production by species group and type of product, Indiana, 1984

Species group	All products	Type of product										
		Sawlogs		Veneer logs		Pulpwood		Handle bolts		Cooperage logs		Other products[1]
	(MCF)[2]	(MBF)[3]	(MCF)[2]	(MBF)[3]	(MCF)[2]	(Cords)[4]	(MCF)[2]	(MBF)[3]	(MCF)[2]	(MBF)[3]	(MCF)[2]	(MCF)[2]
Hardwoods												
Ash	5,192	24,599	4,043	461	64	1,337	106	6,002	973	--	--	6
Aspen	129	794	129	--	--	--	--	--	--	--	--	--
Basswood	604	3,416	562	16	2	515	40	--	--	--	--	--
Beech	2,482	14,532	2,388	116	16	1,009	78	--	--	--	--	--
Birch	118	674	110	14	2	--	--	--	--	--	--	6
Blackgum	411	2,024	334	54	7	887	70	--	--	--	--	--
Black cherry	1,146	6,543	1,074	34	4	879	68	--	--	--	--	--
Cottonwood	1,617	9,358	1,453	383	52	762	59	--	--	--	--	53
Elm	422	2,464	403	19	2	213	17	--	--	--	--	--
Pecan hickory	227	717	116	231	31	1,015	80	--	--	--	--	--
Other hickory	4,489	25,351	4,165	195	27	3,046	240	325	52	--	--	5
Hard maple	3,781	19,969	3,401	234	32	2,146	170	1,095	178	--	--	--
Soft maple	2,319	11,999	2,045	314	42	2,311	182	--	--	--	--	50
Red oak	20,120	113,552	19,214	3,184	435	5,871	465	--	--	--	--	6
White oak	9,854	47,552	8,046	4,968	679	5,996	475	--	--	3,949	650	4
Sweetgum	812	4,556	750	111	15	596	46	--	--	--	--	1
Sycamore	2,303	11,922	1,958	330	45	3,692	294	--	--	--	--	6
Black walnut	1,761	8,845	1,354	2,889	407	--	--	--	--	--	--	--
Yellow-poplar	7,475	42,749	7,021	565	78	4,737	376	--	--	--	--	--
Other hardwoods	201	1,046	171	38	5	320	25	--	--	--	--	--
Total	65,463	352,662	58,737	14,156	1,945	35,332	2,791	7,422	1,203	3,949	650	137
Softwoods												
Pine	109	613	106	21	3	--	--	--	--	--	--	--
Redcedar	49	234	49	--	--	--	--	--	--	--	--	--
Total	158	847	155	21	3	--	--	--	--	--	--	--
All species	65,621	353,509	58,892	14,177	1,948	35,332	2,791	7,422	1,203	3,949	650	137

[1] Includes piling, poles, and shavings bolts.

[2] Thousand cubic feet.

[3] Thousand board feet, International 1/4-inch rule.

[4] Standard cords, contains 128 cubic feet including wood, bark, and air space.

Table 4.--Industrial roundwood production by species group and Forest Survey Unit, Indiana, 1984

(In thousand cubic feet)

Species group	All Units	Lower Wabash Unit	Knobs Unit	Upland Flats Unit	Northern Unit
Hardwoods					
Ash	5,192	1,320	1,656	470	1,746
Aspen	129	19	40	11	59
Basswood	604	106	114	52	332
Beech	2,482	387	996	233	866
Birch	118	34	30	15	39
Blackgum	411	112	211	69	19
Black cherry	1,146	254	395	66	431
Cottonwood	1,617	453	249	140	775
Elm	422	155	74	4	189
Pecan hickory	227	87	80	3	57
Other hickory	4,489	1,466	2,004	171	848
Hard maple	3,781	670	1,776	128	1,207
Soft maple	2,319	682	571	141	925
Red oak	20,120	4,545	10,031	1,155	4,389
White oak	9,854	2,073	4,534	612	2,635
Sweetgum	812	221	378	173	40
Sycamore	2,303	578	808	167	750
Black walnut	1,761	485	477	161	638
Yellow-poplar	7,475	2,148	4,106	461	760
Other hardwoods	201	64	78	8	51
Total	65,463	15,859	28,608	4,240	16,756
Softwoods					
Pine	109	2	93	--	14
Redcedar	49	1	39	9	--
Total	158	3	132	9	14
All species	65,621	15,862	28,740	4,249	16,770

Table 5.--Industrial roundwood production by ownership class, Forest Survey Unit, and species group, Indiana, 1984

(In thousand cubic feet)

Ownership class and species group	All Units	Lower Wabash Unit	Knobs Unit	Upland Flats Unit	Northern Unit
Federal					
National Forest					
Hardwoods	2,411	178	2,233	--	--
Softwoods	6	--	6	--	--
Total	2,417	178	2,239	--	--
Other					
Hardwoods	238	39	--	93	106
Softwoods	--	--	--	--	--
Total	238	39	--	93	106
State					
Hardwoods	988	96	852	14	26
Softwoods	12	3	3	6	--
Total	1,000	99	855	20	26
Private					
Forest Industry					
Hardwoods	906	45	701	119	41
Softwoods	1	--	1	--	--
Total	907	45	702	119	41
Other					
Hardwoods	60,920	15,501	24,822	4,014	16,583
Softwoods	139	--	122	3	14
Total	61,059	15,501	24,944	4,017	16,597
All owners					
Hardwoods	65,463	15,859	28,608	4,240	16,756
Softwoods	158	3	132	9	14
Total	65,621	15,862	28,740	4,249	16,770

Table 6.--Saw log production by species group in Indiana, 1966 and 1984

(In thousand board feet)[1/]

Species group	1966	1984	Change
Hardwoods			
Ash	10,584	24,599	14,015
Aspen	585	794	209
Basswood	3,767	3,416	-351
Beech	10,636	14,532	3,896
Blackgum	1,208	2,024	816
Black cherry	2,030	6,543	4,513
Cottonwood	13,410	9,358	-4,052
Elm	2,853	2,464	-389
Hickory	7,359	26,068	18,709
Hard maple	21,132	19,969	-1,163
Soft maple	14,876	11,999	-2,877
Red oak	64,375	113,552	49,177
White oak	25,058	47,552	22,494
Sweetgum	3,057	4,556	1,499
Sycamore	11,190	11,922	732
Black walnut	10,193	8,845	-1,348
Yellow-poplar	16,733	42,749	26,016
Other hardwoods	3,477	1,720	-1,757
Total	222,523	352,662	130,139
Softwoods			
Cypress	535	--	-535
Pine	187	613	426
Redcedar	61	234	173
Total	783	847	64
All species	223,306	353,509	130,203

[1/] International 1/4-inch rule.

Table 7.--Sawlog production by Forest Survey Unit, species group, and State of destination, Indiana, 1984

(In thousand board feet)[1/]

ALL UNITS

Species group	All States	State of destination				
		Indiana	Illinois	Ohio	Michigan	Other States
Hardwoods						
Ash	24,599	24,452	--	81	26	40
Aspen	794	794	--	--	--	--
Basswood	3,416	3,408	--	8	--	--
Beech	14,532	14,438	--	39	--	55
Birch	674	674	--	--	--	--
Blackgum	2,024	2,024	--	--	--	--
Black cherry	6,543	6,513	--	24	6	--
Cottonwood	9,358	8,800	558	--	--	--
Elm	2,464	2,409	55	--	--	--
Pecan hickory	717	689	--	28	--	--
Other hickory	25,351	25,267	--	43	6	35
Hard maple	19,969	19,854	--	64	15	36
Soft maple	11,999	11,870	55	39	23	12
Red oak	113,552	112,134	229	189	435	565
White oak	47,552	47,249	--	134	86	83
Sweetgum	4,556	4,418	--	--	--	138
Sycamore	11,922	11,908	14	--	--	--
Black walnut	8,845	8,844	--	1	--	--
Yellow-poplar	42,749	42,697	--	14	1	37
Other hardwoods	1,046	1,043	--	3	--	--
Total	352,662	349,485	911	667	598	1,001
Softwoods						
Pine	613	613	--	--	--	--
Redcedar	234	234	--	--	--	--
Total	847	847	--	--	--	--
All species	353,509	350,332	911	667	598	1,001
LOWER WABASH UNIT						
Hardwoods						
Ash	6,870	6,870	--	--	--	--
Aspen	116	116	--	--	--	--
Basswood	581	581	--	--	--	--
Beech	2,309	2,309	--	--	--	--
Birch	174	174	--	--	--	--
Blackgum	557	557	--	--	--	--
Black cherry	1,477	1,477	--	--	--	--
Cottonwood	2,362	1,948	414	--	--	--
Elm	912	857	55	--	--	--
Pecan hickory	195	195	--	--	--	--
Other hickory	8,385	8,385	--	--	--	--
Hard maple	3,574	3,574	--	--	--	--
Soft maple	2,897	2,842	55	--	--	--
Red oak	25,967	25,532	--	--	--	435
White oak	10,752	10,704	--	--	--	48
Sweetgum	1,066	1,066	--	--	--	--
Sycamore	2,852	2,838	14	--	--	--
Black walnut	2,934	2,934	--	--	--	--
Yellow-poplar	12,228	12,228	--	--	--	--
Other hardwoods	342	342	--	--	--	--
Total	86,550	85,529	538	--	--	483
Softwoods						
Pine	13	13	--	--	--	--
Redcedar	5	5	--	--	--	--
Total	18	18	--	--	--	--
All species	86,568	85,547	538	--	--	483

(Table 7 continued on next page)

[1/] International 1/4-inch rule.

(Table 7 continued)

Species group	All States	State of destination: Indiana	Illinois	Ohio	Michigan	Other States
KNOBS UNIT						
Hardwoods						
Ash	7,347	7,340	--	7	--	--
Aspen	246	246	--	--	--	--
Basswood	517	517	--	--	--	--
Beech	5,634	5,634	--	--	--	--
Birch	172	172	--	--	--	--
Blackgum	946	946	--	--	--	--
Black cherry	2,077	2,077	--	--	--	--
Cottonwood	1,269	1,269	--	--	--	--
Elm	380	380	--	--	--	--
Pecan hickory	163	163	--	--	--	--
Other hickory	10,879	10,879	--	--	--	--
Hard maple	8,818	8,818	--	--	--	--
Soft maple	2,928	2,928	--	--	--	--
Red oak	56,180	56,145	--	35	--	--
White oak	19,539	19,525	--	14	--	--
Sweetgum	2,196	2,196	--	--	--	--
Sycamore	3,614	3,614	--	--	--	--
Black walnut	2,643	2,643	--	--	--	--
Yellow-poplar	23,133	23,133	--	--	--	--
Other hardwoods	356	356	--	--	--	--
Total	149,037	148,981	--	56	--	--
Softwoods						
Pine	537	537	--	--	--	--
Redcedar	185	185	--	--	--	--
Total	722	722	--	--	--	--
All species	149,759	149,703	--	56	--	--
UPLAND FLATS UNIT						
Hardwoods						
Ash	1,876	1,770	--	66	--	40
Aspen	73	73	--	--	--	--
Basswood	315	307	--	8	--	--
Beech	1,420	1,326	--	39	--	55
Birch	88	88	--	--	--	--
Blackgum	410	410	--	--	--	--
Black cherry	398	374	--	24	--	--
Cottonwood	873	873	--	--	--	--
Elm	24	24	--	--	--	--
Pecan hickory	18	18	--	--	--	--
Other hickory	1,012	969	--	8	--	35
Hard maple	703	621	--	46	--	36
Soft maple	815	795	--	8	--	12
Red oak	6,344	6,104	--	110	--	130
White oak	2,819	2,764	--	20	--	35
Sweetgum	1,048	910	--	--	--	138
Sycamore	999	999	--	--	--	--
Black walnut	494	493	--	1	--	--
Yellow-poplar	2,794	2,743	--	14	--	37
Other hardwoods	52	49	--	3	--	--
Total	22,575	21,710	--	347	--	518
Softwoods						
Pine	1	1	--	--	--	--
Redcedar	44	44	--	--	--	--
Total	45	45	--	--	--	--
All species	22,620	21,755	--	347	--	518

(Table 7 continued on next page)

(Table 7 continued)

NORTHERN UNIT

Species group	All States	State of destination				Other States
		Indiana	Illinois	Ohio	Michigan	
Hardwoods						
Ash	8,506	8,472	--	8	26	--
Aspen	359	359	--	--	--	--
Basswood	2,003	2,003	--	--	--	--
Beech	5,169	5,169	--	--	--	--
Birch	240	240	--	--	--	--
Blackgum	111	111	--	--	--	--
Black cherry	2,591	2,585	--	--	6	--
Cottonwood	4,854	4,710	144	--	--	--
Elm	1,148	1,148	--	--	--	--
Pecan hickory	341	313	--	28	--	--
Other hickory	5,075	5,034	--	35	6	--
Hard maple	6,874	6,841	--	18	15	--
Soft maple	5,359	5,305	--	31	23	--
Red oak	25,061	24,353	229	44	435	--
White oak	14,442	14,256	--	100	86	--
Sweetgum	246	246	--	--	--	--
Sycamore	4,457	4,457	--	--	--	--
Black walnut	2,774	2,774	--	--	--	--
Yellow-poplar	4,594	4,593	--	--	1	--
Other hardwoods	296	296	--	--	--	--
Total	94,500	93,265	373	264	598	--
Softwoods						
Pine	62	62	--	--	--	--
Redcedar	--	--	--	--	--	--
Total	62	62	--	--	--	--
All species	94,562	93,327	373	264	598	--

Table 8.--Saw log receipts in Indiana by Forest Survey Unit, species group, and State of origin, 1984

(In thousand board feet)[1/]

ALL UNITS

Species group	All States	State of origin: Indiana	Illinois	Michigan	Kentucky	Ohio	Louisiana	Oklahoma	New York	Other States
Hardwoods										
Ash	27,481	24,452	1,362	713	533	421	--	--	--	--
Aspen	799	794	--	4	--	1	--	--	--	--
Basswood	3,842	3,408	46	320	28	40	--	--	--	--
Beech	15,146	14,438	146	245	186	131	--	--	--	--
Birch	698	674	24	--	--	--	--	--	--	--
Blackgum	2,086	2,024	25	--	37	--	--	--	--	--
Black cherry	7,513	6,513	303	495	94	88	--	--	5	15
Cottonwood	9,626	8,800	436	189	8	193	--	--	--	--
Elm	2,865	2,409	272	161	13	10	--	--	--	--
Pecan hickory	894	689	100	--	--	--	59	35	--	11
Other hickory	27,512	25,267	1,394	441	175	235	--	--	--	--
Hard maple	21,928	19,854	453	847	634	127	--	--	13	--
Soft maple	14,253	11,870	1,003	1,100	69	211	--	--	--	--
Red oak	125,954	112,134	3,886	4,017	4,765	1,152	--	--	--	--
White oak	52,657	47,249	2,187	1,306	1,279	636	--	--	--	--
Sweetgum	4,718	4,418	266	--	34	--	--	--	--	--
Sycamore	12,594	11,908	545	4	43	94	--	--	--	--
Black walnut	11,922	8,844	1,397	225	600	856	--	--	--	--
Yellow-poplar	46,078	42,697	1,036	441	1,810	94	--	--	--	--
Other hardwoods	1,123	1,043	39	11	11	19	--	--	--	--
Total	389,689	349,485	14,920	10,519	10,319	4,308	59	35	18	26
Softwoods										
Pine	645	613	--	30	2	--	--	--	--	--
Redcedar	235	234	--	--	1	--	--	--	--	--
Total	880	847	--	30	3	--	--	--	--	--
All species	390,569	350,332	14,920	10,549	10,322	4,308	59	35	18	26

(Table 8 continued on next page)

[1/] International 1/4-inch rule.

(Table 8 continued)

LOWER WABASH UNIT

Species group	All States	State of origin: Indiana	Illinois	Louisiana	Oklahoma	Other States
Hardwoods						
Ash	7,689	6,475	1,214	--	--	--
Aspen	54	54	--	--	--	--
Basswood	601	561	40	--	--	--
Beech	2,200	2,054	146	--	--	--
Birch	118	104	14	--	--	--
Blackgum	443	428	15	--	--	--
Black cherry	1,873	1,586	287	--	--	--
Cottonwood	2,262	1,876	386	--	--	--
Elm	1,097	840	257	--	--	--
Pecan hickory	400	195	100	59	35	11
Other hickory	9,651	8,383	1,268	--	--	--
Hard maple	3,796	3,399	397	--	--	--
Soft maple	2,595	2,296	299	--	--	--
Red oak	28,461	25,758	2,703	--	--	--
White oak	11,670	10,160	1,510	--	--	--
Sweetgum	846	774	72	--	--	--
Sycamore	3,138	2,646	492	--	--	--
Black walnut	2,849	2,747	102	--	--	--
Yellow-poplar	11,719	10,794	925	--	--	--
Other hardwoods	361	322	39	--	--	--
Total	91,823	81,452	10,266	59	35	11
Softwoods						
Pine	44	44	--	--	--	--
Total	44	44	--	--	--	--
All species	91,867	81,496	10,266	59	35	11

(Table 8 continued on next page)

(Table 8 continued)

KNOBS UNIT

Species group	All States	State of origin: Indiana	Illinois	Kentucky	Ohio	New York	Other States
Hardwoods							
Ash	8,162	7,556	140	466	--	--	--
Aspen	584	584	--	--	--	--	--
Basswood	476	446	2	28	--	--	--
Beech	5,642	5,469	--	173	--	--	--
Birch	270	260	10	--	--	--	--
Blackgum	894	847	10	37	--	--	--
Black cherry	1,944	1,846	6	72	--	5	15
Cottonwood	1,492	1,442	50	--	--	--	--
Elm	373	345	15	13	--	--	--
Pecan hickory	152	152	--	--	--	--	--
Other hickory	11,117	10,831	126	160	--	--	--
Hard maple	9,398	8,756	50	579	--	13	--
Soft maple	3,950	3,225	700	25	--	--	--
Red oak	57,658	52,316	943	4,399	--	--	--
White oak	20,059	18,633	623	789	14	--	--
Sweetgum	2,546	2,323	194	29	--	--	--
Sycamore	4,085	3,995	50	40	--	--	--
Black walnut	2,259	1,913	124	222	--	--	--
Yellow-poplar	25,376	23,596	108	1,672	--	--	--
Other hardwoods	345	345	--	--	--	--	--
Total	156,782	144,880	3,151	8,704	14	18	15
Softwoods							
Pine	476	474	--	2	--	--	--
Redcedar	191	190	--	1	--	--	--
Total	667	664	--	3	--	--	--
All species	157,449	145,544	3,151	8,707	14	18	15

(Table 8 continued on next page)

(Table 8 continued)

UPLAND FLATS UNIT

Species group	All states	State of origin			
		Indiana	Michigan	Kentucky	Ohio
Hardwoods					
Ash	1,347	1,220	--	67	60
Aspen	70	70	--	--	--
Basswood	191	191	--	--	--
Beech	1,204	1,150	--	13	41
Blackgum	389	389	--	--	--
Black cherry	477	419	1	22	35
Cottonwood	911	820	--	8	83
Elm	18	18	--	--	--
Pecan hickory	1	1	--	--	--
Other hickory	718	662	--	15	41
Hard maple	688	633	--	55	--
Soft maple	957	913	--	44	--
Red oak	5,379	5,021	--	203	155
White oak	2,046	1,914	--	91	41
Sweetgum	877	872	--	5	--
Sycamore	1,024	938	--	3	83
Black walnut	2,016	951	23	280	762
Yellow-poplar	2,365	2,186	--	138	41
Other hardwoods	86	86	--	--	--
Total	20,764	18,454	24	944	1,342
Softwoods					
Pine	33	33	--	--	--
Redcedar	44	44	--	--	--
Total	77	77	--	--	--
All species	20,841	18,531	24	944	1,342

(Table 8 continued on next page)

(Table 8 continued)

NORTHERN UNIT

Species group	All States	State of origin				
		Indiana	Illinois	Michigan	Kentucky	Ohio
Hardwoods						
Ash	10,283	9,201	8	713	--	361
Aspen	91	86	--	4	--	1
Basswood	2,574	2,210	4	320	--	40
Beech	6,100	5,765	--	245	--	90
Birch	310	310	--	--	--	--
Blackgum	360	360	--	--	--	--
Black cherry	3,219	2,662	10	494	--	53
Cottonwood	4,961	4,662	--	189	--	110
Elm	1,377	1,206	--	161	--	10
Pecan hickory	341	341	--	--	--	--
Other hickory	6,026	5,391	--	441	--	194
Hard maple	8,046	7,066	6	847	--	127
Soft maple	6,751	5,436	4	1,100	--	211
Red oak	34,456	29,039	240	4,017	163	997
White oak	18,882	16,542	54	1,306	399	581
Sweetgum	449	449	--	--	--	--
Sycamore	4,347	4,329	3	4	--	11
Black walnut	4,798	3,233	1,171	202	98	94
Yellow-poplar	6,618	6,121	3	441	--	53
Other hardwoods	331	290	--	11	11	19
Total	120,320	104,699	1,503	10,495	671	2,952
Softwoods						
Pine	92	62	--	30	--	--
Total	92	62	--	30	--	--
All species	120,412	104,761	1,503	10,525	671	2,952

Table 9.--Pulpwood production in Indiana by species group, 1966, 1976, and 1984

(In standard cords, unpeeled)

Species group	1966	1976	1984
ROUNDWOOD			
Soft hardwoods	45,365	17,555	14,912
Hard hardwoods	48,064	40,379	20,420
Softwoods	662	--	--
Total	94,091	57,934	35,332
RESIDUE			
Hardwood	2,349	114,060	170,568
Softwood	--	--	--
All material	96,440	171,994	205,900

Table 10.--Pulpwood production by Forest Survey Unit and species group in Indiana, 1984

(In standard cords, unpeeled)

Species group	All Units	Lower Wabash Unit	Knobs Unit	Upland Flats Unit	Northern Unit
ROUNDWOOD[1/]					
Ash	1,337	564	729	--	44
Basswood	515	119	372	--	24
Beech	1,009	97	893	--	19
Blackgum	887	238	649	--	--
Black cherry	879	160	688	--	31
Cottonwood	762	293	393	--	76
Elm	213	75	133	--	5
Hickory	4,061	1,428	2,589	--	44
Hard maple	2,146	504	1,598	--	44
Soft maple	2,311	1,519	728	--	64
Red oak	5,871	1,711	4,069	--	91
White oak	5,996	1,242	4,690	--	64
Sweetgum	596	467	129	--	--
Sycamore	3,692	1,159	2,478	--	55
Yellow-poplar	4,737	1,529	3,170	--	38
Other hardwoods	320	85	216	--	19
Total	35,332	11,190	23,524	--	618
RESIDUE					
Hardwood	170,568	2/	2/	2/	2/
Softwood	--	--	--	--	--
All material	205,900	2/	2/	2/	2/

1/ Includes chips from roundwood.

2/ Not available.

Table 11.--Veneer log production in Indiana by species group, 1966, 1976, and 1984

(In thousand board feet)[1/]

Species group	1966	1976	1984
Ash	381	609	461
Basswood	2	15	16
Black cherry	140	99	34
Cottonwood	1,129	668	383
Gum	502	386	165
Pecan hickory	732	354	231
Hard maple	1,080	273	234
Soft maple	36	266	314
Red oak	429	1,683	3,184
White oak	1,681	5,428	4,968
Sycamore	565	525	330
Walnut	6,412	3,426	2,889
Yellow-poplar	2,469	1,242	565
Other hardwoods	205	6	382
Pine	--	--	21
All species	15,763	14,980	14,177

[1/] International 1/4-inch rule.

Table 12.--Veneer log production by species group and State or country of destination, Indiana, 1984

(In thousand board feet)[1/]

		Destination of wood						
Species group	Total	Indiana	Ohio	Michigan	Kentucky	Iowa	Other States	Other countries
Hardwoods								
Ash	461	334	50	--	33	--	34	10
Basswood	16	14	--	--	--	--	--	2
Beech	116	--	116	--	--	--	--	--
Birch	14	14	--	--	--	--	--	--
Blackgum	54	54	--	--	--	--	--	--
Black cherry	34	13	15	--	6	--	--	--
Cottonwood	383	326	--	57	--	--	--	--
Elm	19	19	--	--	--	--	--	--
Pecan hickory	231	182	1	--	48	--	--	--
Other hickory	195	195	--	--	--	--	--	--
Hard maple	234	74	104	--	42	--	--	14
Soft maple	314	314	--	--	--	--	--	--
Red oak	3,184	2,744	237	--	47	--	--	156
White oak	4,968	3,098	707	430	68	--	39	626
Sweetgum	111	111	--	--	--	--	--	--
Sycamore	330	281	32	17	--	--	--	--
Black walnut	2,889	1,373	1,311	46	80	63	--	16
Yellow-poplar	565	565	--	--	--	--	--	--
Other hardwoods	38	2	34	--	2	--	--	--
Total	14,156	9,713	2,607	550	326	63	73	824
Softwoods								
Pine	21	--	21	--	--	--	--	--
All species	14,177	9,713	2,628	550	326	63	73	824

[1/] International 1/4-inch rule.

Table 13.--Veneer log receipts in Indiana by species group and State of origin, 1984

(In thousand board feet)[1/]

Species group	All States	State of origin								
		Indiana	Kentucky	Penn-sylvania	Ohio	Illinois	Louisiana	Tennessee	Michigan	Other States
Hardwoods										
Ash	585	334	32	--	133	38	--	9	3	36
Basswood	14	14	--	--	--	--	--	--	--	--
Birch	17	14	--	--	--	--	--	--	3	--
Blackgum	72	54	18	--	--	--	--	--	--	--
Black cherry	1,098	13	4	937	29	--	--	1	91	23
Cottonwood	415	326	89	--	--	--	--	--	--	--
Elm	71	19	6	--	--	--	--	--	21	25
Pecan hickory	3,470	182	19	--	--	53	1,540	3	--	1,673
Other hickory	308	195	7	--	103	--	--	--	3	--
Hard maple	552	74	1	8	--	--	--	3	466	--
Soft maple	376	314	59	--	--	--	--	--	--	3
Red oak	6,925	2,744	801	1,781	535	1	--	50	820	193
White oak	9,093	3,098	1,325	--	1,086	1,580	--	1,569	87	348
Sweetgum	111	111	--	--	--	--	--	--	--	--
Sycamore	355	281	74	--	--	--	--	--	--	--
Black walnut	3,582	1,373	223	--	659	598	--	8	102	619
Yellow-poplar	621	565	56	--	--	--	--	--	--	--
Other hardwoods	39	2	24	--	--	11	--	--	2	--
Total	27,704	9,713	2,738	2,726	2,545	2,281	1,540	1,643	1,598	2,920
Softwoods										
Pine	304	--	--	--	--	--	187	--	--	117
All species	28,008	9,713	2,738	2,726	2,545	2,281	1,727	1,643	1,598	3,037

[1/] International 1/4-inch rule.

Table 14.--Logging residue generated during industrial roundwood production by species group and Forest Survey Unit, Indiana, 1984

(In thousand cubic feet)

Species group	All Units	Lower Wabash Unit	Knobs Unit	Upland Flats Unit	Northern Unit
Hardwoods					
Ash	4,443	1,134	1,390	396	1,523
Aspen	120	18	37	11	54
Basswood	515	87	79	47	302
Beech	2,198	348	853	214	783
Birch	100	25	25	13	37
Blackgum	308	85	145	62	16
Black cherry	989	223	315	60	391
Cottonwood	1,032	264	143	96	529
Elm	371	138	57	3	173
Pecan hickory	116	35	27	2	52
Other hickory	3,882	1,271	1,685	154	772
Hard maple	2,932	515	1,346	103	968
Soft maple	1,694	418	413	115	748
Red oak	16,011	3,648	7,923	903	3,537
White oak	6,983	1,547	2,949	426	2,061
Sweetgum	691	163	333	158	37
Sycamore	1,818	435	558	151	674
Black walnut	322	93	90	26	113
Yellow-poplar	6,477	1,853	3,509	422	693
Other hardwoods	160	52	55	8	45
Total	51,162	12,352	21,932	3,370	13,508
Softwoods					
Pine	43	1	38	--	4
Redcedar	15	--	12	3	--
Total	58	1	50	3	4
All species	51,220	12,353	21,982	3,373	13,512

Table 15.--Residue produced at primary wood-using mills by type of material, type of use, and county, Indiana, 1984

(In thousand tons green weight)

LOWER WABASH UNIT

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Clay								
Fiber products	--	6.49	--	6.49	--	--	--	--
Industrial fuel	--	4.51	--	1.01	--	3.50	--	.92
Domestic fuel	--	5.64	--	5.64	--	--	--	.93
Miscellaneous[4/]	--	4.79	--	--	--	4.79	--	4.55
Not used	--	3.74	--	2.40	--	1.34	--	.06
Total	--	25.17	--	15.54	--	9.63	--	6.46
Daviess								
Fiber products	--	--	--	--	--	--	--	.43
Domestic fuel	--	5.49	--	5.49	--	--	--	2.27
Miscellaneous[4/]	--	3.17	--	--	--	3.17	--	--
Not used	--	2.40	--	1.50	--	.90	--	.63
Total	--	11.06	--	6.99	--	4.07	--	3.33
Gibson								
Fiber products	--	9.25	--	9.25	--	--	--	--
Industrial fuel	--	5.38	--	--	--	5.38	--	3.80
Total	--	14.63	--	9.25	--	5.38	--	3.80
Greene								
Fiber products	--	4.20	--	4.20	--	--	--	--
Industrial fuel	--	2.08	--	--	--	2.08	--	1.59
Domestic fuel	--	.36	--	.36	--	--	--	.16
Miscellaneous[4/]	--	.67	--	--	--	.67	--	.18
Not used	--	.24	--	.21	--	.03	--	.09
Total	--	7.55	--	4.77	--	2.78	--	2.02
Knox								
Fiber products	--	8.29	--	8.29	--	--	--	--
Industrial fuel	--	2.41	--	--	--	2.41	--	3.48
Domestic fuel	--	.32	--	.30	--	.02	--	.12
Miscellaneous[4/]	--	2.56	--	--	--	2.56	--	--
Not used	--	.05	--	.03	--	.02	--	.01
Total	--	13.63	--	8.62	--	5.01	--	3.61
Martin								
Fiber products	--	4.22	--	4.22	--	--	--	--
Domestic fuel	.01	2.18	.01	2.18	--	--	--	.64
Miscellaneous[4/]	--	.66	--	--	--	.66	--	--
Not used	.08	6.56	.05	2.21	.03	4.35	.03	2.97
Total	.09	13.62	.06	8.61	.03	5.01	.03	3.61

(Table 15 continued on next page)

1/ Suitable for chipping such as slabs, edgings, veneer cores, etc.

2/ Not suitable for chipping such as sawdust, veneer clippings, etc.

3/ Does not include bark at pulpmills.

4/ Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Parke								
Fiber products	--	14.35	--	14.35	--	--	--	--
Industrial fuel	--	3.82	--	--	--	3.82	--	--
Domestic fuel	--	.44	--	.44	--	--	--	--
Miscellaneous[4]	--	4.51	--	--	--	4.51	--	5.98
Not used	--	.38	--	.06	--	.32	--	.18
Total	--	23.50	--	14.85	--	8.65	--	6.16
Pike								
Fiber products	--	4.61	--	4.61	--	--	--	--
Industrial fuel	--	3.76	--	--	--	3.76	--	1.15
Domestic fuel	--	.53	--	.53	--	--	--	.07
Miscellaneous[4]	--	.28	--	--	--	.28	--	.95
Not used	--	.11	--	.05	--	.06	--	.02
Total	--	9.29	--	5.19	--	4.10	--	2.19
Posey								
Fiber products	--	3.74	--	3.74	--	--	--	--
Industrial fuel	--	2.18	--	--	--	2.18	--	1.57
Domestic fuel	--	1.11	--	1.11	--	--	--	.47
Miscellaneous[4]	--	1.26	--	--	--	1.26	--	--
Not used	--	1.14	--	1.11	--	.03	--	.47
Total	--	9.43	--	5.96	--	3.47	--	2.51
Putnam								
Fiber products	--	20.07	--	20.07	--	--	--	--
Industrial fuel	--	3.95	--	--	--	3.95	--	--
Domestic fuel	--	.09	--	.09	--	--	--	--
Miscellaneous[4]	--	8.16	--	--	--	8.16	--	8.58
Not used	--	.64	--	.64	--	--	--	--
Total	--	32.91	--	20.80	--	12.11	--	8.58
Sullivan								
Fiber products	--	14.24	--	14.24	--	--	--	--
Industrial fuel	--	8.29	--	--	--	8.29	--	2.60
Miscellaneous[4]	--	--	--	--	--	--	--	3.25
Total	--	22.53	--	14.24	--	8.29	--	5.85
Vanderburgh								
Industrial fuel	--	5.44	--	2.23	--	3.21	--	1.52
Domestic fuel	--	.09	--	.09	--	--	--	.04
Miscellaneous[4]	--	.05	--	--	--	.05	--	--
Total	--	5.58	--	2.32	--	3.26	--	1.56

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Vigo								
Fiber products	--	10.52	--	10.52	--	--	--	--
Charcoal	--	.54	--	--	--	.54	--	--
Industrial fuel	--	3.83	--	.12	--	3.71	--	2.64
Miscellaneous[4]	--	1.44	--	--	--	1.44	--	1.40
Not used	--	.49	--	--	--	.49	--	.35
Total	--	16.82	--	10.64	--	6.18	--	4.39
All Counties								
Fiber products	--	99.98	--	99.98	--	--	--	.43
Charcoal	--	.54	--	--	--	.54	--	--
Industrial fuel	--	45.65	--	3.36	--	42.29	--	19.27
Domestic fuel	.01	16.25	.01	16.23	--	.02	--	4.70
Miscellaneous[4]	--	27.55	--	--	--	27.55	--	24.89
Not used	.08	15.75	.05	8.21	.03	7.54	.03	4.78
Total	.09	205.72	.06	127.78	.03	77.94	.03	54.07

KNOBS UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Brown								
Industrial fuel	--	.66	--	--	--	.66	--	--
Domestic fuel	--	4.89	--	4.89	--	--	--	1.96
Miscellaneous[4]	--	.63	--	--	--	.63	--	--
Not used	--	1.56	--	--	--	1.56	--	--
Total	--	7.74	--	4.89	--	2.85	--	1.96
Clark								
Fiber products	--	1.01	--	1.01	--	--	--	--
Industrial fuel	--	--	--	--	--	--	--	.74
Miscellaneous[4]	--	1.63	--	--	--	1.63	--	--
Total	--	2.64	--	1.01	--	1.63	--	.74
Crawford								
Fiber products	--	9.35	--	9.35	--	--	--	--
Industrial fuel	.02	6.75	--	--	.02	6.75	--	2.43
Domestic fuel	--	7.89	--	7.89	--	--	--	3.23
Miscellaneous[4]	--	2.37	--	--	--	2.37	--	1.87
Not used	.02	15.79	.02	7.78	--	8.01	.01	3.22
Total	.04	42.15	.02	25.02	.02	17.13	.01	10.75

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Dubois								
Fiber products	--	3.85	--	3.85	--	--	--	--
Industrial fuel	--	2.10	--	.38	--	1.72	--	1.07
Domestic fuel	--	7.81	--	7.81	--	--	--	3.11
Miscellaneous[4/]	--	5.59	--	--	--	5.59	--	.40
Not used	--	1.41	--	.85	--	.56	--	.84
Total	--	20.76	--	12.89	--	7.87	-	5.42
Floyd								
Fiber products	--	4.12	--	4.12	--	--	--	--
Industrial fuel	--	14.85	--	6.64	--	8.21	--	4.13
Domestic fuel	.02	1.54	.02	.34	--	1.20	.01	1.01
Miscellaneous[4/]	.01	1.40	--	--	.01	1.40	--	.87
Total	.03	21.91	.02	11.10	.01	10.81	.01	6.01
Harrison								
Fiber products	.03	11.26	.03	11.26	--	--	--	--
Industrial fuel	.05	7.51	--	--	.05	7.51	.02	3.58
Domestic fuel	.02	4.14	.02	4.14	--	--	--	1.71
Miscellaneous[4/]	--	4.49	--	1.16	--	3.33	--	1.79
Not used	--	.57	--	--	--	.57	--	--
Total	.10	27.97	.05	16.56	.05	11.41	.02	7.08
Jackson								
Fiber products	.04	12.52	.04	10.37	--	2.15	--	--
Industrial fuel	.02	11.70	--	1.96	.02	9.74	.02	4.57
Domestic fuel	.03	3.18	.03	3.18	--	--	.01	1.04
Miscellaneous[4/]	.01	1.33	--	--	.01	1.33	--	1.29
Not used	--	4.50	--	3.88	--	.62	--	1.66
Total	.10	33.23	.07	19.39	.03	13.84	.03	8.56
Lawrence								
Fiber products	--	8.17	--	8.17	--	--	--	--
Industrial fuel	--	6.79	--	--	--	6.79	--	2.47
Domestic fuel	--	12.07	--	10.90	--	1.17	--	4.62
Miscellaneous[4/]	--	.47	--	--	--	.47	--	.20
Not used	.54	3.07	.34	.07	.20	3.00	.14	.69
Total	.54	30.57	.34	19.14	.20	11.43	.14	7.98
Monroe								
Fiber products	--	12.72	--	12.72	--	--	--	--
Industrial fuel	.02	3.90	.01	--	.01	3.90	--	--
Domestic fuel	--	.36	--	.36	--	--	--	.15
Miscellaneous[4/]	--	4.78	--	.67	--	4.11	--	5.59
Total	.02	21.76	.01	13.75	.01	8.01	--	5.74

(Table 15 continued on next page)

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Does not include bark at pulpmills.

[4/] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1/]		Fine[2/]		Bark[3/]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Morgan								
Fiber products	--	23.68	--	21.79	--	1.89	--	.57
Industrial fuel	--	7.13	--	1.24	--	5.89	--	3.69
Domestic fuel	--	1.42	--	1.42	--	--	--	.61
Miscellaneous[4/]	--	7.81	--	--	--	7.81	--	5.27
Not used	--	1.23	--	.05	--	1.18	--	.69
Total	--	41.27	--	24.50	--	16.77	--	10.83
Orange								
Fiber products	--	16.96	--	16.96	--	--	--	--
Industrial fuel	.08	8.03	.05	.12	.03	7.91	.01	3.86
Domestic fuel	--	4.34	--	4.34	--	--	--	1.81
Miscellaneous[4/]	--	.16	--	--	--	.16	--	--
Not used	--	4.40	--	--	--	4.40	--	3.29
Total	.08	33.89	.05	21.42	.03	12.47	.01	8.96
Owen								
Fiber products	--	1.29	--	1.29	--	--	--	--
Domestic fuel	--	4.42	--	4.42	--	--	--	1.36
Miscellaneous[4/]	--	2.82	--	--	--	2.82	--	.65
Not used	--	.50	--	--	--	.50	--	.34
Total	--	9.03	--	5.71	--	3.32	--	2.35
Perry								
Fiber products	--	20.91	--	20.69	--	.22	--	--
Industrial fuel	--	12.15	--	.31	--	11.84	--	8.79
Domestic fuel	.01	.82	.01	.82	--	--	--	.33
Miscellaneous[4/]	--	.29	--	--	--	.29	--	.01
Not used	--	.63	--	.19	--	.44	--	.08
Total	.01	34.80	.01	22.01	--	12.79	--	9.21
Scott								
Fiber products	.14	5.71	.09	3.61	.05	2.10	--	--
Industrial fuel	--	--	--	--	--	--	.04	1.48
Domestic fuel	.06	3.70	.06	3.70	--	--	.03	1.47
Miscellaneous[4/]	.04	2.15	--	--	.04	2.15	--	--
Total	.24	11.56	.15	7.31	.09	4.25	.07	2.95
Spencer								
Fiber products	--	2.90	--	2.90	--	--	--	--
Industrial fuel	--	1.69	--	--	--	1.69	--	1.19
Domestic fuel	--	.06	--	.06	--	--	--	--
Miscellaneous[4/]	--	.03	--	--	--	.03	--	--
Total	--	4.68	--	2.96	--	1.72	--	1.19
Warrick								
Fiber products	--	9.42	--	9.42	--	--	--	--
Industrial fuel	--	5.48	--	--	--	5.48	--	3.96
Domestic fuel	--	1.86	--	1.86	--	--	--	.67
Miscellaneous[4/]	--	1.08	--	--	--	1.08	--	.06
Total	--	17.84	--	11.28	--	6.56	--	4.69

(Table 15 continued on next page)

[1/] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2/] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3/] Does not include bark at pulpmills.

[4/] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Washington								
Fiber products	--	2.83	--	2.83	--	--	--	--
Industrial fuel	.02	1.94	.02	--	--	1.94	.01	1.35
Domestic fuel	.17	3.97	.17	3.97	--	--	.03	1.63
Miscellaneous[4]	.10	1.67	--	--	.10	1.67	--	--
Not used	.01	4.28	--	1.96	.01	2.32	--	.78
Total	.30	14.69	.19	8.76	.11	5.93	.04	3.76
All counties								
Fiber products	.21	146.70	.16	140.34	.05	6.36	--	.57
Industrial fuel	.21	90.68	.08	10.65	.13	80.03	.10	43.31
Domestic fuel	.31	62.47	.31	60.10	--	2.37	.08	24.71
Miscellaneous[4]	.16	38.70	--	1.83	.16	36.87	--	18.00
Not used	.57	37.94	.36	14.78	.21	23.16	.15	11.59
Total	1.46	376.49	.91	227.70	.55	148.79	.33	98.18

UPLAND FLATS UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Dearborn								
Fiber products	--	4.59	--	4.59	--	--	--	--
Domestic fuel	.05	.57	.05	.53	--	.04	.01	.23
Miscellaneous[4]	.03	.25	--	--	.03	.25	--	2.39
Not used	--	4.36	--	.11	--	4.25	--	.05
Total	.08	9.77	.05	5.23	.03	4.54	.01	2.67
Franklin								
Domestic fuel	--	1.79	--	1.79	--	--	--	.59
Miscellaneous[4]	--	.86	--	--	--	.86	--	--
Not used	--	1.09	--	.57	--	.52	--	.25
Total	--	3.74	--	2.36	--	1.38	--	.84
Jefferson								
Fiber products	--	3.90	--	3.90	--	--	--	--
Industrial fuel	.03	5.00	.01	1.47	.02	3.53	--	1.10
Domestic fuel	.03	4.50	.03	4.50	--	--	.01	1.87
Miscellaneous[4]	--	1.92	--	--	--	1.92	--	1.15
Not used	--	1.75	--	.92	--	.83	--	.39
Total	.06	17.07	.04	10.79	.02	6.28	.01	4.51

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Jennings								
Fiber products	--	9.56	--	4.82	--	4.74	--	--
Industrial fuel	--	.44	--	--	--	.44	--	.30
Domestic fuel	.01	.64	.01	.64	--	--	--	.26
Miscellaneous[4]	--	.38	--	--	--	.38	--	1.73
Total	.01	11.02	.01	5.46	--	5.56	--	2.29
Ripley								
Fiber products	--	8.10	--	6.48	--	1.62	--	--
Domestic fuel	--	1.98	--	1.98	--	--	--	1.84
Miscellaneous[4]	--	2.15	--	--	--	2.15	--	1.11
Not used	--	1.15	--	--	--	1.15	--	.45
Total	--	13.38	--	8.46	--	4.92	--	3.40
Union								
Domestic fuel	--	.57	--	.57	--	--	--	.05
Miscellaneous[4]	--	.13	--	--	--	.13	--	--
Not used	--	.95	--	.47	--	.48	--	.35
Total	--	1.65	--	1.04	--	.61	--	.40
All counties								
Fiber products	--	26.15	--	19.79	--	6.36	--	--
Industrial fuel	.03	5.44	.01	1.47	.02	3.97	--	1.40
Domestic fuel	.09	10.05	.09	10.01	--	.04	.02	4.84
Miscellaneous[4]	.03	5.69	--	--	.03	5.69	--	6.38
Not used	--	9.30	--	2.07	--	7.23	--	1.49
Total	.15	56.63	.10	33.34	.05	23.29	.02	14.11

NORTHERN UNIT

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Adams								
Fiber products	--	2.22	--	2.22	--	--	--	--
Miscellaneous[4]	--	1.29	--	--	--	1.29	--	.94
Total	--	3.51	--	2.22	--	1.29	--	.94
Allen								
Fiber products	--	.66	--	.66	--	--	--	--
Industrial fuel	--	.10	--	.10	--	--	--	.04
Domestic fuel	--	1.58	--	1.58	--	--	--	.65
Miscellaneous[4]	--	1.61	--	--	--	1.61	--	.28
Not used	--	.58	--	.52	--	.06	--	.21
Total	--	4.53	--	2.86	--	1.67	--	1.18

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Bartholomew								
Fiber products	--	1.35	--	1.35	--	--	--	--
Domestic fuel	--	1.67	--	1.67	--	--	--	.69
Miscellaneous[4]	--	1.77	--	.01	--	1.76	--	.56
Not used	--	.22	--	.14	--	.08	--	.06
Total	--	5.01	--	3.17	--	1.84	--	1.31
Blackford								
Fiber products	--	1.85	--	1.85	--	--	--	--
Miscellaneous[4]	--	.97	--	--	--	.97	--	.69
Not used	--	.11	--	--	--	.11	--	.08
Total	--	2.93	--	1.85	--	1.08	--	.77
Boone								
Domestic fuel	--	.36	--	.36	--	--	--	.15
Miscellaneous[4]	--	.21	--	--	--	.21	--	--
Total	--	.57	--	.36	--	.21	--	.15
Cass								
Domestic fuel	--	2.29	--	2.29	--	--	--	.80
Miscellaneous[4]	--	.04	--	--	--	.04	--	--
Not used	--	1.67	--	.24	--	1.43	--	.18
Total	--	4.00	--	2.53	--	1.47	--	.98
Clinton								
Domestic fuel	--	3.16	--	3.16	--	--	--	1.21
Miscellaneous[4]	--	2.00	--	--	--	2.00	--	--
Not used	--	.39	--	.35	--	.04	--	.13
Total	--	5.55	--	3.51	--	2.04	--	1.34
Decatur								
Domestic fuel	--	7.30	--	7.30	--	--	--	1.88
Miscellaneous[4]	--	4.25	--	--	--	4.25	--	1.09
Total	--	11.55	--	7.30	--	4.25	--	2.97
De Kalb								
Industrial fuel	--	.44	--	.44	--	--	--	.18
Domestic fuel	--	.74	--	.74	--	--	--	.30
Miscellaneous[4]	--	.52	--	--	--	.52	--	--
Not used	--	.68	--	.33	--	.35	--	.13
Total	--	2.38	--	1.51	--	.87	--	.61
Delaware								
Industrial fuel	--	.04	--	.04	--	--	--	.02
Domestic fuel	--	.06	--	.06	--	--	--	.02
Miscellaneous[4]	--	.05	--	--	--	.05	--	--
Total	--	.15	--	.10	--	.05	--	.04

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Elkhart								
Fiber products	--	14.15	--	14.15	--	--	--	--
Industrial fuel	--	.17	--	--	--	.17	--	--
Domestic fuel	.07	3.58	.07	1.11	--	2.47	.03	.47
Miscellaneous[4]	.04	4.48	--	--	.04	4.48	--	5.67
Not used	--	1.91	--	.09	--	1.82	--	.03
Total	.11	24.29	.07	15.35	.04	8.94	.03	6.17
Fountain								
Domestic fuel	--	5.90	--	5.90	--	--	--	.46
Miscellaneous[4]	--	3.44	--	--	--	3.44	--	--
Not used	--	--	--	--	--	--	--	1.88
Total	--	9.34	--	5.90	--	3.44	--	2.34
Fulton								
Industrial fuel	--	10.74	--	6.79	--	3.95	--	2.88
Domestic fuel	--	.72	--	.72	--	--	--	.29
Miscellaneous[4]	--	.78	--	.36	--	.42	--	.15
Not used	--	.21	--	--	--	.21	--	--
Total	--	12.45	--	7.87	--	4.58	--	3.32
Henry								
Domestic fuel	--	.65	--	.65	--	--	--	.27
Miscellaneous[4]	--	.38	--	--	--	.38	--	--
Total	--	1.03	--	.65	--	.38	--	.27
Howard								
Domestic fuel	--	2.11	--	2.11	--	--	--	.79
Miscellaneous[4]	--	.33	--	--	--	.33	--	--
Not used	--	.90	--	--	--	.90	--	--
Total	--	3.34	--	2.11	--	1.23	--	.79
Huntington								
Domestic fuel	--	1.85	--	1.85	--	--	--	.79
Miscellaneous[4]	--	2.15	--	--	--	2.15	--	--
Total	--	4.00	--	1.85	--	2.15	--	.79
Jay								
Domestic fuel	--	.44	--	.44	--	--	--	.18
Miscellaneous[4]	--	3.06	--	1.77	--	1.29	--	.73
Total	--	3.50	--	2.21	--	1.29	--	.91
Johnson								
Fiber products	--	4.28	--	4.28	--	--	--	--
Industrial fuel	.47	21.61	.18	9.68	.29	11.93	.13	6.00
Domestic fuel	--	10.80	--	6.83	--	3.97	--	2.90
Miscellaneous[4]	--	2.49	--	--	--	2.49	--	1.80
Total	.47	39.18	.18	20.79	.29	18.39	.13	10.70

(Table 15 continued on next page)

[1] Suitable for chipping such as slabs, edgings, veneer cores, etc.

[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Kosckiusko								
Industrial fuel	--	1.11	--	1.11	--	--	--	.42
Domestic fuel	--	8.89	--	7.78	--	1.11	--	3.10
Miscellaneous[4]	--	3.37	--	--	--	3.37	--	--
Not used	--	1.87	--	.75	--	1.12	--	.29
Total	--	15.24	--	9.64	--	5.60	--	3.81
La Grange								
Fiber products	--	13.20	--	13.20	--	--	--	--
Industrial fuel	--	.74	--	.02	--	.72	--	.01
Domestic fuel	.05	2.46	.05	2.46	--	--	.02	.28
Miscellaneous[4]	.03	7.41	--	--	.03	7.41	--	6.24
Not used	--	1.17	--	.10	--	1.07	--	--
Total	.08	24.98	.05	15.78	.03	9.20	.02	6.53
La Porte								
Domestic fuel	--	.67	--	.67	--	--	--	.28
Miscellaneous[4]	--	.27	--	--	--	.27	--	--
Not used	--	.12	--	--	--	.12	--	--
Total	--	1.06	--	.67	--	.39	--	.28
Madison								
Domestic fuel	--	.82	--	.82	--	--	--	.30
Miscellaneous[4]	--	.49	--	--	--	.49	--	--
Not used	--	.02	--	.02	--	--	--	.01
Total	--	1.33	--	.84	--	.49	--	.31
Marion								
Industrial fuel	.06	7.89	.02	3.24	.04	4.65	.02	2.39
Domestic fuel	--	.04	--	.04	--	--	--	--
Miscellaneous[4]	--	.71	--	.04	--	.67	--	.03
Total	.06	8.64	.02	3.32	.04	5.32	.02	2.42
Marshall								
Fiber products	--	3.92	--	3.92	--	--	--	--
Domestic fuel	--	9.74	--	9.74	--	--	--	3.86
Miscellaneous[4]	--	6.23	--	--	--	6.23	--	1.67
Not used	--	2.71	--	.62	--	2.09	--	.25
Total	--	22.60	--	14.28	--	8.32	--	5.78
Miami								
Domestic fuel	--	3.34	--	3.34	--	--	--	1.30
Miscellaneous[4]	--	1.48	--	--	--	1.48	--	--
Not used	--	.99	--	.34	--	.65	--	.13
Total	--	5.81	--	3.68	--	2.13	--	1.43

(Table 15 continued on next page)

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[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Noble								
Fiber products	--	4.06	--	4.06	--	--	--	--
Industrial fuel	--	1.98	--	.09	--	1.89	--	.04
Domestic fuel	--	1.09	--	1.09	--	--	--	.44
Miscellaneous[4]	--	.83	--	--	--	.83	--	1.70
Not used	--	.34	--	--	--	.34	--	--
Total	--	8.30	--	5.24	--	3.06	--	2.18
Porter								
Domestic fuel	--	1.85	--	1.85	--	--	--	--
Miscellaneous[4]	--	1.08	--	--	--	1.08	--	.79
Total	--	2.93	--	1.85	--	1.08	--	.79
Pulaski								
Domestic fuel	--	.48	--	.37	--	.11	--	.16
Miscellaneous[4]	--	.11	--	--	--	.11	--	--
Total	--	.59	--	.37	--	.22	--	.16
Randolph								
Industrial fuel	--	2.16	--	--	--	2.16	--	--
Miscellaneous[4]	--	5.66	--	4.94	--	.72	--	2.09
Total	--	7.82	--	4.94	--	2.88	--	2.09
Rush								
Fiber products	--	1.62	--	1.62	--	--	--	--
Domestic fuel	--	.60	--	.60	--	--	--	.08
Miscellaneous[4]	--	1.17	--	--	--	1.17	--	.60
Not used	--	.25	--	.08	--	.17	--	.30
Total	--	3.64	--	2.30	--	1.34	--	.98
St. Joseph								
Fiber products	--	3.70	--	3.70	--	--	--	--
Industrial fuel	--	2.15	--	--	--	2.15	--	1.57
Total	--	5.85	--	3.70	--	2.15	--	1.57
Shelby								
Domestic fuel	--	.92	--	.92	--	--	--	.34
Miscellaneous[4]	--	.54	--	--	--	.54	--	--
Total	--	1.46	--	.92	--	.54	--	.34
Starke								
Fiber products	--	1.68	--	1.68	--	--	--	--
Domestic fuel	--	1.21	--	1.21	--	--	--	.51
Miscellaneous[4]	--	1.37	--	--	--	1.37	--	.71
Not used	--	.52	--	.13	--	.39	--	.06
Total	--	4.78	--	3.02	--	1.76	--	1.28

(Table 15 continued on next page)

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[2] Not suitable for chipping such as sawdust, veneer clippings, etc.

[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

(Table 15 continued)

County and type of use	Wood residue							
	Total		Coarse[1]		Fine[2]		Bark[3]	
	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood	Softwood	Hardwood
Steuben								
Industrial fuel	--	.02	--	.02	--	--	--	.01
Domestic fuel	--	2.63	--	2.63	--	--	--	1.11
Miscellaneous[4]	--	1.44	--	--	--	1.44	--	--
Not used	--	.15	--	.03	--	.12	--	.02
Total	--	4.24	--	2.68	--	1.56	--	1.14
Wabash								
Domestic fuel	--	1.66	--	1.66	--	--	--	.63
Miscellaneous[4]	--	.75	--	--	--	.75	--	--
Not used	--	.50	--	.18	--	.32	--	.07
Total	--	2.91	--	1.84	--	1.07	--	.70
Warren								
Fiber products	--	1.41	--	1.41	--	--	--	--
Miscellaneous[4]	--	.82	--	--	--	.82	--	.59
Total	--	2.23	--	1.41	--	.82	--	.59
White								
Domestic fuel	--	4.22	--	4.22	--	--	--	1.74
Miscellaneous[4]	--	1.02	--	--	--	1.02	--	--
Not used	--	4.79	--	2.12	--	2.67	--	.87
Total	--	10.03	--	6.34	--	3.69	--	2.61
Whitley								
Fiber products	--	7.57	--	7.57	--	--	--	--
Industrial fuel	--	4.41	--	--	--	4.41	--	1.29
Miscellaneous[4]	--	--	--	--	--	--	--	1.93
Total	--	11.98	--	7.57	--	4.41	--	3.22
All counties								
Fiber products	--	61.67	--	61.67	--	--	--	--
Industrial fuel	.53	53.56	.20	21.53	.33	32.03	.15	14.85
Domestic fuel	.12	83.83	.12	76.17	--	7.66	.05	25.98
Miscellaneous[4]	.07	64.57	--	7.12	.07	57.45	--	28.26
Not used	--	20.10	--	6.04	--	14.06	--	4.70
Total	.72	283.73	.32	172.53	.40	111.20	.20	73.79
Total Indiana								
Fiber products	.21	334.50	.16	321.78	.05	12.72	--	1.00
Charcoal	--	.54	--	--	--	.54	--	--
Industrial fuel	.77	195.33	.29	37.01	.48	158.32	.25	78.83
Domestic fuel	.53	172.60	.53	162.51	--	10.09	.15	60.23
Miscellaneous[4]	.26	136.51	--	8.95	.26	127.56	--	77.53
Not used	.65	83.09	.41	31.10	.24	51.99	.18	22.56
Total	2.42	922.57	1.39	561.35	1.03	361.22	.58	240.15

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[3] Does not include bark at pulpmills.

[4] Livestock bedding, mulch, poultry litter, etc.

Blyth, James E.; McGuire, Donald H.; Smith, W. Brad.
1987. Indiana timber industry—an assessment of timber product output and use. Resour. Bull. NC-102. St. Paul, MN: U.S. Department of Agriculture, Forest Service, North Central Forest Experiment Station. 34 p.

Discusses recent Indiana forest industry trends; production and receipts of saw logs; and production of pulpwood, veneer logs, and other products in 1984. Reports on logging residue, on wood and bark residue generated at primary wood-using mills, and on disposition of this residue.

KEY WORDS: Saw logs, pulpwood, veneer logs, roundwood, residue.

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